

What is claimed is:

Sub B247
1. A vehicle control method comprising applying vibration to a tire to change friction force between the tire and the surface of a road so as to control the running state of a vehicle.

2. The vehicle control method according to claim 1, wherein the vibration is micro-vibration having a higher frequency than the response frequency of a vehicle.

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3. The vehicle control method according to claim 1 or 2, wherein the vibration is applied in at least one of the revolution direction, width direction and load support direction of the tire.

4. The vehicle control method according to claim any one of claims 1 to 3, wherein the amplitude of the vibration is modulated to 1 to 2,000 % of the depth of a tread or the thickness of a top tread rubber.

5. The vehicle control method according to claim any one of claims 1 to 4, wherein the frequency of the vibration is modulated to 1 Hz to 1 kHz.

6. The vehicle control method according to claim any one of claims 1 to 5, wherein the frequency of the

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SUB A1) vibration is modulated to 20 Hz to 1 kHz.

7. The vehicle control method according to claim any one of claims 1 to 6, wherein at least one of the amplitude, frequency and phase of deformation of vibration to be applied to the tire in the load support direction or revolution direction of the tire is controlled to minimize the rolling resistance of the tire caused by friction between the tire and the surface of a road at the time of running.

8. A vehicle control apparatus comprising:
vibration generating means for generating vibration to be applied to each tire; and
control means for controlling at least one of the amplitude, frequency and phase of deformation of vibration generated by said vibration generating means.

9. The vehicle control apparatus according to claim 8, wherein the vibration is micro-vibration having a higher frequency than the response frequency of a vehicle.

SUB A2) 10. The vehicle control apparatus according to claim 9, wherein said control means is provided with means of turning on or off said vibration generating means.

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